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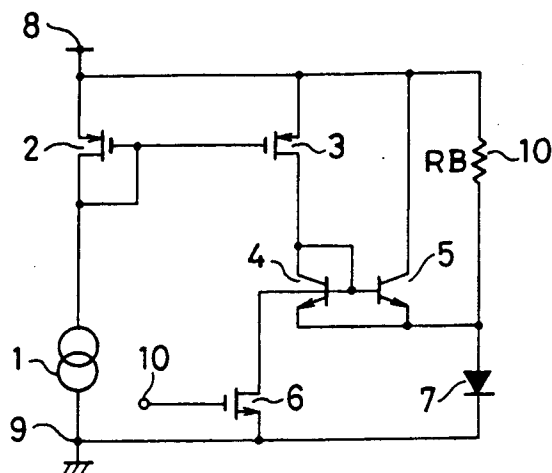
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01.12.93 Bulletin 93/48(71) Applicant: **CANON KABUSHIKI KAISHA**
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D-80336 München (DE)(54) **Drive circuit for semiconductor light-emitting device.**

(57) A drive circuit for supplying a constant drive current to the anode terminal of a semiconductor light emitting device, includes a current supply source connected to the anode terminal for supplying a bias current to the semiconductor light emitting device. Since the drive circuit is formed so as to supply the bias current to the anode terminal of the semiconductor light emitting device, a charge current for charging a junction capacitance can be reduced independently on the time period of turning off the semiconductor light emitting device. As a result, a spike noise can be removed in the laser current waveform at its rise-up part, and a reduction of its rise-up speed can be restricted, both of which are due to a dependent upon the time period of turning off the semiconductor device.

**FIG. 6****EP 0 563 580 A3**



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EUROPEAN SEARCH REPORT

Application Number

EP 93 10 3106

DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.5)
X	EP-A-0 262 713 (PHILIPS' GLOEILAMPENFABRIEKEN) 6 April 1988	1-4	H 01 S 3/096
Y	* column 1, line 45 - column 3, line 55; column 4, line 31 - column 7, line 4; figures 4-6 *	5-12	H 05 B 37/00
Y	US-A-4 748 633 (NEGISHI) 31 May 1988 * column 3, line 13 - line 52; column 4, line 4 - column 5, line 20; figure 4 *	5,6,11, 12	
Y	JOURNAL OF LIGHTWAVE TECHNOLOGY vol. 6, no. 3, March 1988, NEW YORK, USA pages 475 - 479 F.S. CHEN ET AL. 'GaAs MESFET Laser-Driver IC for 1.7-Gbit/s Lightwave Transmitter' * paragraph II; figure 2 *	7-10	
A	US-A-4 835 780 (SUGIMURA ET AL.) 30 May 1989 * abstract; claim 1; figures 1,2 *	1-4	
A	FREQUENZ vol. 46, no. 1/2, January 1992, BERLIN, DE pages 31 - 37 , XP291338 H.M. REIN 'Design of a Silicon Bipolar Laser- and Line-Driver IC with Adjustable Pulse Shape and Amplitude for Data Rates Around and Above 10 Gbit/s' * page 32, right column, line 1 - page 33, left column, line 20; figures 2-4,9 *	1-7,9	
The present search report has been drawn up for all claims			TECHNICAL FIELDS SEARCHED (Int. Cl.5)
Place of search THE HAGUE			Examiner STANG I
CATEGORY OF CITED DOCUMENTS			
X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document		T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document	



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CLAIMS INCURRING FEES

The present European patent application comprised at the time of filing more than ten claims.

- ☐ All claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims and for those claims for which claims fees have been paid,
namely claims:
- ☐ No claims fees have been paid within the prescribed time limit. The present European search report has been drawn up for the first ten claims.

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions.

namely:

see sheet -B-

- ☐ All further search fees have been paid within the fixed time limit. The present European search report has been drawn up for all claims.
- ☐ Only part of the further search fees have been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the inventions in respect of which search fees have been paid,
namely claims:
- ☒ None of the further search fees has been paid within the fixed time limit. The present European search report has been drawn up for those parts of the European patent application which relate to the invention first mentioned in the claims.

namely claims: 1-12



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EP 93 10 3106 -B-

LACK OF UNITY OF INVENTION

The Search Division considers that the present European patent application does not comply with the requirement of unity of invention and relates to several inventions or groups of inventions, namely:

1. Claims 1-12: Means for supplying a current in response to an input control signal just before the driving object is actually driven in response to the control signal
2. Claims 13-16: Means for supplying a constant bias current to the driving object independent on the input control signal